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FIG. 1a

FIG. 1	FIG. 1a FIG. 1b
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Sequence of the PCV Imp1011-48121 isolate (SEQ ID No. 1)

```

1  AATTCAACCT TAACCTTTCT TATTCTGTAG TATTCAAAGG GCACAGAGCG
51  GGGGTTTGAG CCCCTCCTG GGGGAAGAAA GTCATTAATA TTGAATCTCA
101 TCATGTCCAC CGCCCAGGAG GCGGTTCTGA CTGTGGTTCG CTTGACAGTA
151 TATCCGAAGG TGCGGGAGAG GCGGGTGTG AAGATGCCAT TTTTCCTTCT
201 CCAGCGGTAA CGGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTCCG GTAACGCCTC
301 CTTGGATACG TCATATCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG
401 CCGAGCAAGA AGAATGGAAG AAGCGGACCC CAACCCATA AAAGTGGGT
451 GTTCACTCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGATC
501 TTCCAATATC CCTATTTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG
551 GAAGGACGAA CACCTCACCT CCAGGGGTTC GCTAATTTTG TGAAGAAGCA
601 GACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCGCTGC CACATCGAGA
651 AAGCGAAAGG AACAGATCAG CAGAATAAAG AATACTGCAG TAAAGAAGGC
701 AACTTACTGA TGGAGTGTGG AGCTCCTAGA TCTCAGGGAC AACGGAGTGA
751 CCTGTCTACT GCTGTGAGTA CCTTGTGGA GAGCGGGAGT CTGGTGACCG
801 TTGCAGAGCA GCACCCTGTA ACGTTTGTCA GAAATTTCCT CGGGCTGGCT
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACTAA
901 TGTacACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG
1001 TGGTGGGATG GTTACCATGG TGAAGAAGTG GTTGTATTG ATGACTTTTA
1051 TGGCTGGCTG CCCTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT
1101 TGACTGTAGA GACTAAAGGT GGAAGTGTAC CTTTTTTGGC CCGCAGTATT
1151 CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT
1201 CCCAGCTGTA GAAGCTCTTT ATCGGAGGAT TACTTCCTTG GTATTTTGG

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FIG. 1b

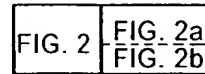
FIG. 1	FIG. 1a
	FIG. 1b

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCCTT  
1301 TCCCCCCGAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTTT  
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TAAGGGTTAA GTGGGGGGTC  
1401 TTTAAGATTA AATTCTCTGA ATTGTACATA CATGGTTACA CGGATATTGT  
1451 ATTCCTGGTC GTATATACTG TTTTCGAACG CAGTGCCGAG GCCTACGTGG  
1501 TCTACATTTT CAGCAGTTTG TAGTCTCAGC CACAGCTGGT TTCTTTTGTT  
1551 GTTTGGTTGG AAGTAATCAA TAGTGGAATC TAGGACAGGT TTGGGGGTAA  
1601 AGTAGCGGGA GTGGTAGGAG AAGGGCTGGG TTATGGTATG GCGGGAGGAG  
1651 TAGTTTACAT AGGGGTCATA GGTGAGGGCT GTGGCCTTTG TTACAAAGTT  
1701 ATCATCTAGA ATAACAGCAC TGGAGCCCAC TCCCCTGTCA CCCTGGGTGA  
1751 TCGGGGAGCA GGGCCAG

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FIG. 2a



Sequence of the PCV Impl011-48285 isolate (SEQ ID No. 2)

1 AATTCAACCT TAACCTTTCT TATTCTGTAG TATTCAAAGG GCACAGAGCG  
51 GGGGTTTGAG CCCCCTCCTG GGGGAAGAAA GTCATTAATA TTGAATCTCA  
101 TCATGTCCAC CGCCAGGAG GCGGTTTTGA CTGTGGTTCG CTTGACAGTA  
151 TATCCGAAGG TCGGGGAGAG GCGGGTGTG AAGATGCCAT TTTTCCTTCT  
201 CCAGCGGTAA CGGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA  
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTCCG GTAACGCCTC  
301 CTTGGATACG TCATATCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC  
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG  
401 CCCAGCAAGA AGAATGGAAG AAGCGGACCC CAACCCATA AAAGGTGGGT  
451 GTTCACTCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGATC  
501 TTCCAATATC CCTATTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG  
551 GAAGGACGAA CACCTCACCT CCAGGGGTTT GCTAATTTTG TGAAGAAGCA  
601 GACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCGCTGC CACATCGAGA  
651 AAGCGAAAGG AACAGATCAG CAGAATAAAG AATACTGCAG TAAAGAAGGC  
701 AACTTACTGA TGGAGTGTGG AGCTCCTAGa TCTCagGGAC AACGGAGTGA  
751 CCTGTCTACT GCTGTGAGTA CTTGTGTGGA GAGCGGGAGT CTGGTGACCG  
801 TTGCAGAGCA GCACCCTGTA ACGTTTGTCA GAAATTTCCG CGGGCTGGCT  
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACTAA  
901 TGTACACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG  
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG  
1001 TGGTGGGATG GTTACCATGG TGAAGAAGTG GTTGTTATTG ATGACTTTTA  
1051 TGGCTGGCTG CCCTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT  
1101 TGA CTGTAGTA GACTAAAGGT GGAAGTGTAC CTTTTTTGGC CCGCAGTATT  
1151 CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT  
1201 CCCAGCTGTA GAAGCTCTTT ATCGGAGGAT TACTTCCTTG GTATTTTGA

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FIG. 2b

FIG. 2	FIG. 2a
	FIG. 2b

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCTT  
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT  
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TAAGGGTTAA GTGGGGGGTC  
1401 TTTAAGATTA AATTCTCTGA ATTGTACATA CATGGTTACA CGGATATTGT  
1451 ATTCCTGGTC GTATATACTG TTTTCGAACG CAGTGCCGAG GCCTACGTGG  
1501 TCTACATTTT CAGTAGTTTG TAGTCTCAGC CACAGCTGAT TTCTTTTGT  
1551 GTTTGGTTGG AAGTAATCAA TAGTGGAATC TAGGACAGGT TTGGGGGTAA  
1601 AGTAGCGGGA GTGGTAGGAG AAGGGCTGGG TTATGGTATG GCGGGA<sub>g</sub>GAG  
1651 TAGTTTACAT AGGGGTCATA GGTGA<sub>g</sub>GGCT GTGGCCTTTG TTACAAAGTT  
1701 ATCATCTAGA ATAACAGCAC TGGAGCCCAC TCCCCTGTCA CCCTGGGTGA  
1751 TCGGGGAGCA GGGCCAG

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FIG. 3a

FIG. 3	FIG. 3a
	FIG. 3b

Sequence of the PCV Imp999 isolate (SEQ ID No. 3)

1 AATTCAACCT TAACCTTTTT TATTCTGTAG TATTCAAAGG GTATAGAGAT  
51 TTTGTTGGTC CCCCTCCCG GGGGAACAAA GTCGTCAATA TTAAATCTCA  
101 TCATGTCCAC CGCCCAGGAG GCGGTTCTGA CTGTGGTAGC CTTGACAGTA  
151 TATCCGAAGG TGCGGGAGAG GCGGGTGTG AAGATGCCAT TTTCTTTCT  
201 CCAACGGTAG CCGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA  
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTGCG GTAACGCCTC  
301 CTTGGATACG TCATAGCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC  
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG  
401 CCCAGCAAGA AGAATGGAAG AAGCGGACCC CAACCACATA AAAGGTGGGT  
451 GTTCACGCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGAGC  
501 TCCCAATCTC CCTATTTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG  
551 GAAGGACGAA CACCTCACCT CCAGGGGTTT GCTAATTTTG TGAAGAAGCA  
601 AACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCGCTGC CACATCGAGA  
651 AAGCCAAAGG AACTGATCAG CAGAATAAAG AATATTGCAG TAAAGAAGGC  
701 AACTTACTTA TTGAATGTGG AGCTCCTCGA TCTCAAGGAC AACGGAGTGA  
751 CCTGTCTACT GCTGTGAGTA CTTGTTGGA GAGCGGGAGT CTGGTGACCG  
801 TTGCAGAGCA GCACCCTGTA ACGTTTGTA GAAATTTCCG CGGGCTGGCT  
851 GAACTTTTGA AAGTGAGCGG GAAATGCAG AAGCGTGATT GGAAGACCAA  
901 TGTACACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG  
951 CTAATTTTGC AGACCCGGA ACCACATACT GGAAACCACC TAGAAACAAG  
1001 TGGTGGGATG GTTACCATGG TGAAGAAAGT GTTGTTATTG ATGACTTTTA  
1051 TGGCTGGCTG CCGTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT  
1101 TGAAGTAGA GACTAAAGGT GGAAGTGTAC CTTTTTTGGC CCGCAGTATT  
1151 CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT  
1201 CCCAGCTGTA GAAGCTCTCT ATCGGAGGAT TACTTCCTTG GTATTTTGGA

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FIG. 3b

FIG. 3	FIG. 3a
	FIG. 3b

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCCTT  
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT  
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TTAGGGTTTA AGTGGGGGGT  
1401 CTTTAAGATT AAATTCTCTG AATTGTACAT ACATGGTTAC ACGGATATTG  
1451 TAGTCCTGGT CGTATATACT GTTTTCGAAC GCAGTGCCGA GGCCTACGTG  
1501 GTCCACATTT CTAGAGGTTT GTAGCCTCAG CCAAAGCTGA TTCCTTTTGT  
1551 TATTTGGTTG GAAGTAATCA ATAGTGGAGT CAAGAACAGG TTTGGGTGTG  
1601 AAGTAACGGG AGTGGTAGGA GAAGGGTTGG GGGATTGTAT GGCGGGAGGA  
1651 GTAGTTTACA TATGGGTCAT AGGTTAGGGC TGTGGCCTTT GTTACAAAGT  
1701 TATCATCTAG AATAACAGCA GTGGAGCCCA CTCCCCTATC ACCCTGGGTG  
1751 ATGGGGGAGC AGGGCCAG

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FIG. 4a

FIG. 4	FIG. 4a FIG. 4b
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Sequence of the PCV Impl010 isolate (SEQ ID No. 4)

1 AATTCAACCT FAACCTTTCT TATTCTGTAG TATTCAAAGG GTATAGAGAT  
51 TTTGTTGGTC CCCCCTCCCG GGGGAACAAA GTCGTCAATT TTAAATCTCA  
101 TCATGTCCAC CGCCCAGGAG GCGGTTGTGA CTGTGGTACG CTTGACAGTA  
151 TATCCGAAGG TGCGGGAGAG GCGGGTGTG AAGATGCCAT TTTTCCTTCT  
201 CCAACGGTAG CGGTGGCGGG GGTGGACGAG CCAGGGGCGG CGGCGGAGGA  
251 TCTGGCCAAG ATGGCTGCGG GGGCGGTGTC TTCTTCTGCG GTAACGCCTC  
301 CTTGGATACG TCATAGCTGA AAACGAAAGA AGTGCCTGT AAGTATTACC  
351 AGCGCACTTC GGCAGCGGCA GCACCTCGGC AGCACCTCAG CAGCAACATG  
401 CCCAGCAAGA AGAATGGAAG AAGCGGACCC CAACCACATA AAAGGTGGGT  
451 GTTCACGCTG AATAATCCTT CCGAAGACGA GCGCAAGAAA ATACGGGAGC  
501 TCCAATCTC CCTATTTGAT TATTTTATTG TTGGCGAGGA GGGTAATGAG  
551 GAAGGACGAA CACCTCACCT CCAGGGGTTT GCTAATTTTG TGAAGAAGCA  
601 AACTTTTAAT AAAGTGAAGT GGTATTTGGG TGCCCGCTGC CACATCGAGA  
651 AAGCCAAAGG AACTGATCAG CAGAATAAAG AATATTGCAG TAAAGAAGGC  
701 AACTTACTTA TTGAATGTGG AGCTCCTCGA TCTCAAGGAC AACGGAGTGA  
751 CCTGTCTACT GCTGTGAGTA CCTTGTGGA GAGCGGGAGT CTGGTGACCG  
801 TTGCAGAGCA GCACCCTGTA ACGTTTGTCA GAAATTTCCG CGGGCTGGCT  
851 GAACTTTTGA AAGTGAGCGG GAAAATGCAG AAGCGTGATT GGAAGACCAA  
901 TGTACACGTC ATTGTGGGGC CACCTGGGTG TGGTAAAAGC AAATGGGCTG  
951 CTAATTTTGC AGACCCGGAA ACCACATACT GGAAACCACC TAGAAACAAG  
1001 TGGTGGGATG GTTACCATGG TGAAGAAGTG GTTGTATTG ATGACTTTTA  
1051 TGGCTGGCTG CCGTGGGATG ATCTACTGAG ACTGTGTGAT CGATATCCAT  
1101 TGA CTGATTACCA GCAATCAGAC CCCGTTGGAA TGGTACTCCT CAACTGCTGT  
1151  
1201 CCCAGCTGTA GAAGCTCTCT ATCGGAGGAT TACTTCCTTG GTATTTTGA

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FIG. 4b

FIG. 4	FIG. 4a
	FIG. 4b

1251 AGAATGCTAC AGAACAATCC ACGGAGGAAG GGGGCCAGTT CGTCACCCTT  
1301 TCCCCCCCAT GCCCTGAATT TCCATATGAA ATAAATTACT GAGTCTTTTT  
1351 TATCACTTCG TAATGGTTTT TATTATTCAT TTAGGGTTTA AGTGGGGGGT  
1401 CTTTAAGATT AAATTCTCTG AATTGTACAT ACATGGTTAC ACGGATATTG  
1451 TAGTCCTGGT CGTATTTACT GTTTTCGAAC GCAGCGCCGA GGCCTACGTG  
1501 GTCCACATTT CCAGAGGTTT GTAGTCTCAG CCAAAGCTGA TTCCTTTTGT  
1551 TATTTGGTTG GAAGTAATCA ATAGTGGAGT CAAGAACAGG TTTGGGTGTG  
1601 AAGTAACGGG AGTGGTAGGA GAAGGGTTGG GGGATTGTAT GCGGGGAGGA  
1651 GTAGTTTACA TATGGGTCAT AGGTTAGGGC TGTGGCCTTT GTTACAAAGT  
1701 TATCATCTAG AATAACAGCA GTGGAGCCCA CTCCCCTATC ACCCTGGGTG  
1751 ATGGGGGAGC AGGGCCAG

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FIG. 5a

FIG. 5	FIG. 5a
	FIG. 5b
	FIG. 5c
	FIG. 5d

CLUSTAL W multiple sequence alignment

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PCVPK-15      AATTCATATTTAGCCTTTCTAATACGGTAGTATTGGAAAGGTAGGGGTAGGGGGTTGGTG
IMP999-ECO    AATTCAACCTTAACCTTTTTTATTCTGTAGTATTCAAAGGGTATAGAGATTTTGTGGTC
IMP1010-ST    AATTCAACCTTAACCTTTTCTTATTCTGTAGTATTCAAAGGGTATAGAGATTTTGTGGTC
IMP1011-48    AATTCAACCTTAACCTTTTCTTATTCTGTAGTATTCAAAGGGCACAGAGCGGGGGTTTGAG
IMP1011-48    AATTCAACCTTAACCTTTTCTTATTCTGTAGTATTCAAAGGGCACAGAGCGGGGGTTTGAG
*****      *** ***** * * * * ***** * * * * *      **** *

PCVPK-15      CCGCCTGAGGGGGGGAGGAACTGGCCGATGTTGAATTTGAGGTAGTTAACATTCCAAGAT
IMP999-ECO    CCCCCTCCCGGGGGAACAAAGTCGTCAATTTAAATCTCATCATGTCCACCGCCCAGGAG
IMP1010-ST    CCCCCTCCCGGGGGAACAAAGTCGTCAATTTAAATCTCATCATGTCCACCGCCCAGGAG
IMP1011-48    CCCCCTCCTGGGGGAAGAAAGTCATTAATATTGAATCTCATCATGTCCACCGCCCAGGAG
IMP1011-48    CCCCCTCCTGGGGGAAGAAAGTCATTAATATTGAATCTCATCATGTCCACCGCCCAGGAG
* * * * *      ***** * * * * *      * * * * * * * * * *      * * * * *

PCVPK-15      GGC--TGCGAGTATCCTCCTTTT-ATGGTGAGTACAAATTCTGTAGAAAGCGGGAATTG
IMP999-ECO    GGCGTTCTGACTGTGGTAGCCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTG
IMP1010-ST    GGCGTTGTGACTGTGGTACGCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTG
IMP1011-48    GGCGTTCTGACTGTGGTTCGCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTG
IMP1011-48    GGCGTTTGTACTGTGGTTCGCTTGACAGTATATCCGAAGGTGCGGGAGAGGCGGGTGTG
*** * * * *      * * * * *      * * * * *      * * * * *      * * * * *

PCVPK-15      AAGATACCCGCTCTTTTCGGCGCCATCTGTAACGGTTTCTGAAGCGGGGTGTGCCAAATAT
IMP999-ECO    AAGATGCCATTTTTCTTCTCCAACGGTAGCGGTGGC-GGGGGTGGG-CGAGCCAGGGGC
IMP1010-ST    AAGATGCCATTTTTCTTCTCCAACGGTAGCGGTGGC-GGGGGTGGG-CGAGCCAGGGGC
IMP1011-48    AAGATGCCATTTTTCTTCTCCAACGGTAGCGGTGGC-GGGGGTGGG-CGAGCCAGGGGC
IMP1011-48    AAGATGCCATTTTTCTTCTCCAACGGTAGCGGTGGC-GGGGGTGGG-CGAGCCAGGGGC
***** * * * *      * * * * *      * * * * *      * * * * *      * * * * *

PCVPK-15      GGTCTTCTCCGAGGATGTTTCCAAGATGGCTGCGGGGGCGGGTCTTCTTCTGCGGTAA
IMP999-ECO    GG---CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA
IMP1010-ST    GG---CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA
IMP1011-48    GG---CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA
IMP1011-48    GG---CGGCGGAGGATCTGGCCAAGATGGCTGCGGGGGCGGTGTCTTCTTCTGCGGTAA
* *      * * ***** * ***** ***** ***** *****

PCVPK-15      CGCCTCCTTGGCCACGTCATCCTATAAAAGTGAAAGAAGTGCGCTGCTGTAGTATTACCA
IMP999-ECO    CGCCTCCTTGGGATACGTCATAGC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA
IMP1010-ST    CGCCTCCTTGGGATACGTCATAGC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA
IMP1011-48    CGCCTCCTTGGGATACGTCATATC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA
IMP1011-48    CGCCTCCTTGGGATACGTCATATC-TGAAAACGAAAGAAGTGCGCTGTA--AGTATTACCA
***** * * * *      * * * * *      * * * * *      * * * * *      * * * * *

PCVPK-15      GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCG--TCAGTG--AAAATGCCAAGCAAGAA
IMP999-ECO    GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCACCTCAGCAGCAACATGCCCAGCAAGAA
IMP1010-ST    GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCACCTCAGCAGCAACATGCCCAGCAAGAA
IMP1011-48    GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCACCTCAGCAGCAACATGCCCAGCAAGAA
IMP1011-48    GCGCACTTCGGCAGCGGCAGCACCTCGGCAGCACCTCAGCAGCAACATGCCCAGCAAGAA
***** * * * *      * * * * *      * * * * *      * * * * *

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FIG. 5c

FIG. 5	FIG. 5a
	FIG. 5b
	FIG. 5c
	FIG. 5d

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

GAAGACAGCTGTACACGTCATAGTGGGCCCCCGGTTGTGGGAAGAGCCAGTGGGCCCCG  
GAAGACCAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC  
GAAGACCAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC  
GAAGACTAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC  
GAAGACTAATGTACACGTCATTGTGGGGCCACCTGGGTGTGGTAAAAGCAAATGGGCTGC  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

TAATTTTGTCTGAGCCTAGGGACACCTACTGGAAGCCTAGTAGAAATAAGTGGTGGGATGG  
TAATTTTGCAGACCCGGAACCACATACTGGAACCACCTAGAAACAAGTGGTGGGATGG  
TAATTTTGCAGACCCGGAACCACATACTGGAACCACCTAGAAACAAGTGGTGGGATGG  
TAATTTTGCAGACCCGGAACCACATACTGGAACCACCTAGAAACAAGTGGTGGGATGG  
TAATTTTGCAGACCCGGAACCACATACTGGAACCACCTAGAAACAAGTGGTGGGATGG  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

ATATCATGGAGAAGAAGTTGTTGTTTGGATGATTTTTATGGCTGGTTACCTTGGGATGA  
TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA  
TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA  
TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA  
TTACCATGGTGAAGAAGTGGTTGTTATTGATGACTTTTATGGCTGGCTGCCGTGGGATGA  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

TCTACTGAGACTGTGTGACCCGGTATCCATTGACTGTAGAGACTAAAGGGGGTACTGTTCC  
TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAAGTGTACC  
TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAAGTGTACC  
TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAAGTGTACC  
TCTACTGAGACTGTGTGATCGATATCCATTGACTGTAGAGACTAAAGGTGGAAGTGTACC  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

TTTTTTGGCCCCGAGTATTTGATTACCAGCAATCAGGCCCCCAGGAATGGTACTCCTC  
TTTTTTGGCCCCGAGTATTTCTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC  
TTTTTTGGCCCCGAGTATTTCTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC  
TTTTTTGGCCCCGAGTATTTCTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC  
TTTTTTGGCCCCGAGTATTTCTGATTACCAGCAATCAGACCCCGTTGGAATGGTACTCCTC  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

AACTGCTGTCCCAGCTGTAGAAGCTCTCTATCGGAGGATTACTACTTTGCAATTTTGGAA  
AACTGCTGTCCCAGCTGTAGAAGCTCTCTATCGGAGGATTACTTCTTGGTATTTTGGAA  
AACTGCTGTCCCAGCTGTAGAAGCTCTCTATCGGAGGATTACTTCTTGGTATTTTGGAA  
AACTGCTGTCCCAGCTGTAGAAGCTCTTTATCGGAGGATTACTTCTTGGTATTTTGGAA  
AACTGCTGTCCCAGCTGTAGAAGCTCTTTATCGGAGGATTACTTCTTGGTATTTTGGAA  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

GACTGCTGGAGAACAATCCACGGAGGTACCCGAAGGCCGATTTGAAGCAGTGGACCCACC  
GAATGCTACAGAACAATCCACGGAGGAA---GGGGGCCAGTTCGTCAACCTTTCCCCCCC  
GAATGCTACAGAACAATCCACGGAGGAA---GGGGGCCAGTTCGTCAACCTTTCCCCCCC  
GAATGCTACAGAACAATCCACGGAGGAA---GGGGGCCAGTTCGTCAACCTTTCCCCCCC  
GAATGCTACAGAACAATCCACGGAGGAA---GGGGGCCAGTTCGTCAACCTTTCCCCCCC  
\*\*\*\*\*

PCVPK-15  
IMP999-ECO  
IMP1010-ST  
IMP1011-48  
IMP1011-48

CTGTGCCCTTTTCCCATATAAAATAAATTACTGAGTCTTTTTTGTATCACATCGTAATG  
ATGCCCTGAATTTCCATATGAAATAAATTACTGAGTCTTTTT---TATCACTTCGTAATG  
ATGCCCTGAATTTCCATATGAAATAAATTACTGAGTCTTTTT---TATCACTTCGTAATG  
ATGCCCTGAATTTCCATATGAAATAAATTACTGAGTCTTTTT---TATCACTTCGTAATG  
ATGCCCTGAATTTCCATATGAAATAAATTACTGAGTCTTTTT---TATCACTTCGTAATG  
\*\*\*\*\*

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FIG. 5d

FIG. 5	FIG. 5a
	FIG. 5b
	FIG. 5c
	FIG. 5d

PCVPK-15	GTTTTTATT-TTTATTTA---TTTA---GAGGGTCTTTTAGGATAAAATTCTCTGAATTG
IMP999-ECO	GTTTTTATTATTCAATTAGGGTTTAAGTGGGGGGTCTTTAAGATTAAATTCTCTGAATTG
IMP1010-ST	GTTTTTATTATTCAATTAGGGTTTAAGTGGGGGGTCTTTAAGATTAAATTCTCTGAATTG
IMP1011-48	GTTTTTATTATTCAATAAGGGTT-AAGTGGGGGGTCTTTAAGATTAAATTCTCTGAATTG
IMP1011-48	GTTTTTATTATTCAATAAGGGTT-AAGTGGGGGGTCTTTAAGATTAAATTCTCTGAATTG
	***** * * * * * * * * * * * * * * * * * *
PCVPK-15	TACATAAATAGTCAGCCTTACCACATAATTTTGGGCTGTGGCTGC-ATTTTGGAGCGCAT
IMP999-ECO	TACATACATGGTTACACGGATATTGTAGTCTCTGG-TCGTATATACTGTTTTCGAACGCAG
IMP1010-ST	TACATACATGGTTACACGGATATTGTAGTCTCTGG-TCGTATTTACTGTTTTCGAACGCAG
IMP1011-48	TACATACATGGTTACACGGATATTGTATTCTCTGG-TCGTATATACTGTTTTCGAACGCAG
IMP1011-48	TACATACATGGTTACACGGATATTGTATTCTCTGG-TCGTATATACTGTTTTCGAACGCAG
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PCVPK-15	AGCCGAGGCCTGTGTGCTCGACATTGGTGTGGGTATTTAAATGGAGCCACAGCTGGTTTC
IMP999-ECO	TGCCGAGGCCTACGTGGTCCACATTTCTAGAGGTTTGTAGCCTCAGCCAAAGCTGATTCC
IMP1010-ST	CGCCGAGGCCTACGTGGTCCACATTTCCAGAGGTTTGTAGTCTCAGCCAAAGCTGATTCC
IMP1011-48	TGCCGAGGCCTACGTGGTCTACATTTCCAGCAGTTGTAGTCTCAGCCACAGCTGGTTTC
IMP1011-48	TGCCGAGGCCTACGTGGTCTACATTTCCAGTAGTTGTAGTCTCAGCCACAGCTGATTTC
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PCVPK-15	TTTTATTATTGGGTGGAACCAATCAATTGTTTGGTCCAGCTCAGGTTTGGGGGTGAAGT
IMP999-ECO	TTTTGTTATTGGTTGGAAGTAATCAATAGTGGAGTCAAGAACAGGTTTGGGTGTGAAGT
IMP1010-ST	TTTTGTTATTGGTTGGAAGTAATCAATAGTGGAGTCAAGAACAGGTTTGGGTGTGAAGT
IMP1011-48	TTTTGTTGTTGGTTGGAAGTAATCAATAGTGGAAATCTAGGACAGGTTTGGGGGTAAAGT
IMP1011-48	TTTTGTTGTTGGTTGGAAGTAATCAATAGTGGAAATCTAGGACAGGTTTGGGGGTAAAGT
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PCVPK-15	ACCTGGAGTGGTAGGTAAAGGGCTGCCTTATGGTGTGGCGGGAGGAGTAGTTAATATAGG
IMP999-ECO	AACGGGAGTGGTAGGAGAAGGGTTGGGGGATTGTATGGCGGGAGGAGTAGTTTACATATG
IMP1010-ST	AACGGGAGTGGTAGGAGAAGGGTTGGGGGATTGTATGGCGGGAGGAGTAGTTTACATATG
IMP1011-48	AGCGGGAGTGGTAGGAGAAGGGCTGGGTTATGGTATGGCGGGAGGAGTAGTTTACATAGG
IMP1011-48	AGCGGGAGTGGTAGGAGAAGGGCTGGGTTATGGTATGGCGGGAGGAGTAGTTTACATAGG
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PCVPK-15	GGTCATAGGCCAAGTTGGTGGAGGGGGTTACAAAGTTGGCATCCAAGATAACAACAGTGG
IMP999-ECO	GGTCATAGGTTAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCAGTGG
IMP1010-ST	GGTCATAGGTTAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCAGTGG
IMP1011-48	GGTCATAGGTGAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCACTGG
IMP1011-48	GGTCATAGGTGAGGGCTGTGGCCTTTGTTACAAAGTTATCATCTAGAATAACAGCACTGG
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PCVPK-15	ACCCAACACCTCTTTGATTAGAGGTGATGGGGTCTCTGGGGTAA
IMP999-ECO	AGCCCACTCCCCCTATCACCTGGGTGATGGGGGAGCAGGGCCAG
IMP1010-ST	AGCCCACTCCCCCTATCACCTGGGTGATGGGGGAGCAGGGCCAG
IMP1011-48	AGCCCACTCCCCTGTACCCTGGGTGATCGGGGAGCAGGGCCAG
IMP1011-48	AGCCCACTCCCCTGTACCCTGGGTGATCGGGGAGCAGGGCCAG
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